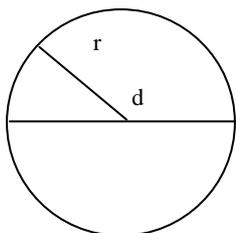


**Pi-Mnemonics:**

Name: \_\_\_\_\_

Pi (or  $\pi$ ) is the ratio of a circle's circumference to its diameter. The mathematical formula for a circle's diameter can be written as  $C = \pi d$  or  $C = 2\pi r$



C (the circumference: that is, the distance all the way around)

But what is the value of  $\pi$ ? We can express  $\pi$  as approximately 3.14159 or  $22/7$ . The fraction  $22/7$  was first determined by Archimedes in the 3<sup>rd</sup> century BC). So, a circle with a diameter of 7 metres (about the width of a typical classroom), has a circumference of  $C = \pi d = 3.14159 \times 7m = 22m$

It turns out though, that we cannot express  $\pi$  exactly as a decimal or a fraction. Using complicated mathematical formulas and techniques, mathematicians have calculated  $\pi$  to billions of decimal places, and have proven that the numbers will go on forever without repeating.  $\pi$  to 50 decimal places can be written 3.14159 26535 89793 23846 26433 83279 50288 41971 69399 37510.

So how do we remember the number? Many authors and mathematicians have written mnemonics for  $\pi$ , where a simple rhyme or sentence uses words with a certain number of letters that represent the digits of  $\pi$ .

For example,

**Can I have a small container of coffee?**

The number of letters in each word is 3, 1, 4, 1, 5, 9, 2, 6. Placing a decimal point after the "3", we get 3.1415926:  $\pi$ , accurate to 7 decimal places!

More examples:

**How I wish I could calculate pi.**

**How I like a drink, alcoholic of course,  
after the heavy lectures involving quantum mechanics.**

**Sir, I send a rhyme excelling  
In sacred truth and rigid spelling** (this one rhymes!)

THE COMPETITION: Write a mnemonic for as many digits of  $\pi$  as you can. If you can make it rhyme, it is called a piem (combining "Pi" and "poem"). You may like to visit

<http://www.morewords.com/wordsbylength/>. This website provides lists of words with the number of letters you need. Use the number below to guide you.

3. 1 4 1 5 9 2 6 5 3 5 3 5 8 9 7